REMARKS

Claims 1-10 are pending in this application. Claims 1, 6, 8 and 10 have been amended for clarification purposes. No new matter has been added.

The Applicants note with appreciation the Examiner's provision of a machine-based translation of JP 2003-007467 A (hereinafter 'Tsuge') to the Applicants on April 16, 2010. If the Examiner should obtain any other translations of Tsuge, the Applicants respectfully request the entry of those translations in the record to ensure its completeness.

Rejections under 35 U.S.C. § 103(a)

The Office Action rejects claims 1-6 and 8-10 under 35 U.S.C. §103(a) as being unpatentable over Tsuge in view of U.S. Application Publication No. 2004/0076853 (hereinafter 'Jarikov').

Claim 1 recites: a "light-emitting device, comprising at least a substrate (1), an anode (2), a light-emitting layer (4) and a cathode (6), wherein the light-emitting layer (4) includes an iridium complex IrL_3 and wherein at least two ligands L are a dibenzoquinoline."

In support of the rejection, the Office Action asserts that Tsuge teaches an organic EL device including a light-emitting layer comprised of a host and a dopant, where the dopant is disclosed to be an iridium complex with benzoquinoline ligands (see also Tsuge, paras 49-52). The Office Action further maintains that because Jarikov describes the use of dibenzo[f,h]quinoline as a host material, it would be obvious to modify the iridium complex of Tsuge to include ligands that are dibenzoquinoline as opposed to benzoquinolines, as taught in Tsuge. Specifically, the Office Action alleges that it would be obvious to modify the doping agent of Tsuge to include a dibenzo[f,h]quinoline ligand because Tsuge discloses a wide variety of nitrogen-containing aromatic groups as ligands for the dopant, Jarikov discloses the use of dibenzo[f,h]quinoline in organic EL devices, the Tsuge dopant can be easily modified to include dibenzo[f,h]quinoline ligands and the modified dibenzo[f,h]quinoline dopant would have similar chemical and physical properties as the dopant disclosed by Tsuge (see Office Action of January 6, 2010, p. 3-4). The Applicants respectfully disagree.

Firstly, it should be noted that the host material and dopants of a luminous layer of an OLED device perform entirely different functions. For example, the doping agent functions as a phosphorescence emitter while the host agent acts as an exciton that excites the doping agent, thereby inducing phosphorescent emission (see Tsuge, paras. 6 and 17). In particular, Tsuge is directed to addressing uneven distribution of the host agent toward the cathode side of the device during operation, which in turn reduces luminescence efficiency (Tsuge, para. 7). Similar to Tsuge, Jarikov is also directed to addressing luminescence efficiency and provides several different variations of a host material to improve luminescence efficiency, among other properties (see, e.g., Jarikov, 'Summary of the Invention,' paras. 9-18). Specifically, Jarikov lists dibenzo[f,h]quinoline as a possible building block for a component of the host material (see Jarikov, paras. 63, 104 and 161).

Despite the fact that Jarikov discloses the use of dibenzo[f,h]quinoline as a host material in an organic EL device, as asserted by the Examiner, Jarikov nowhere discloses or suggests using dibenzo[f,h]quinoline as a doping agent nor is it obvious to do so in view of the references. As noted above, Jarikov and Tsuge are directed primarily to improving the use of a host material that provides an entirely different function than a doping agent. Regardless of the amount of nitrogen-containing aromatic groups used as ligands in a doping agent disclosed in Tsuge or the purported ease with which a benzoquinoline may be replaced with a dibenzoquinoline, neither Tsuge nor Jarikov provide any reason or suggestion whatsoever for applying dibenzoquinoline as a doping agent in the Iridium complex disclosed by Tsuge. Furthermore, contrary to the Examiner's assertions otherwise, no evidence has been presented showing that the resulting dibenzoquinoline iridium complex was known to have similar chemical and physical properties as the iridium complex dopant described in Tsuge. Accordingly, the references do not anticipate or render obvious the iridium complex recited in claim 1 at least because the reference fails to teach or suggest using dibenzoquinoline as a ligand in the Iridium complex dopant described in Tsuge. Thus, it is respectfully submitted that claim 1 is in condition for allowance.

Similarly, it is also respectfully submitted that the cited references fail to disclose or render obvious claims 2-6 due at least to their dependencies from claim 1. With regard to claim 8, claim 8 also recites an iridium complex IrL_3 in which at least two ligands L are

dibenzoquinolines. As discussed above, neither reference, taken singly or in combination, discloses the use of such an iridium complex nor is it obvious to devise such an iridium complex in view of the references. As such, the cited references do not render claim 8 unpatentable. Similarly, claims 9 and 10 are also patentable over the cited references due at least to their dependencies from claim 8. Accordingly, withdrawal of the rejection and allowance of the claims is respectfully requested.

The Office Action also rejects claim 7 under 35 U.S.C. §103(a) as being unpatentable over Tsuge in view of Jarikov in further view of U.S. Publication No. 2003/0141809 (hereinafter 'Furugori'). Claim 7 depends from claim 1 and, as such, includes an iridium complex IrL_3, where at least two ligands L are a dibenzoquinoline. As discussed above, Tsuge and Jarikov fail to disclose or render obvious the use of an iridium complex with ligands that are dibenzoquinolines. Furthermore, Furugori fails to cure the deficiencies of Tsuge and Jarikov, as Furugori nowhere mentions the use of dibenzoquinolines in any way. Thus, it is respectfully submitted that claim 7 is patentable over the cited references. As such, withdrawal of the rejection and allowance of the claims is respectfully requested.

Rejections under 35 U.S.C. § 112, second paragraph

The Office Action rejected claim 7 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. In particular, the Examiner noted that claim 7 is indefinite because it is dependent on itself. Claim 7 has been amended so that it is dependent on preceding claim 6. As such, withdrawal of the rejection is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes that the application is not in condition for allowance, the Examiner is requested to call

the Applicants' representative at the telephone number indicated below to discuss any outstanding issues relating to the allowability of the application.

The Office is authorized to charge Applicant's Deposit Account No. 14-1270 in the amount of $130.00 to cover the filing fees for a one (1) month Extension of Time for a Large Entity.

It is believed that no additional fees or charges are currently due. However, in the event that any additional fees or charges are required at this time in connection with the application, they may be charged to applicant's representatives Deposit Account No. 14-1270.

Respectfully submitted,

Dated: 4-22-10

By _____
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Dated: 5-5-10

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